into the incinerator. Alternatively, if the acid gas is pretreated to remove unsaturated hydrocarbons using an aqueous sulfuric acid wash as described above, the organic sulfate waste stream 13 can be fed into incinerator 40 to cool the incinerator by both evaporation of water and thermal decomposition of the sulfate waste into sulfur dioxide, oxygen and water. Other waste streams from the installation may also be fed to incinerator 40 and used for their combustible content including sour water stripper off-gas derived from petroleum cracking operations. This avoids problems associated with sending sour water stripper off-gas through the sulfur recovery unit such as plugging of heat exchanger equipment, catalyst fouling and corrosion of process equipment. Typically, this is a very troublesome stream to process in Claus installations since it contains ammonia in addition to hydrogen sulfide. Complete destruction of ammonia is required in a conventional Claus plant, since ammonia can form salts leading to plugging and corrosion of downstream process equipment. For complete destruction of ammonia and minimal formation of nitrogen oxides (NOx), high temperatures (e.g., in excess of 1200° C) and reducing conditions are needed. Combustion air 41 may be supplied under pressure to incinerator 40 in two zones, one which is operated under reducing conditions and the following zone operated under oxidizing conditions.--

Please replace the paragraph beginning at page 21, line 24, with the following rewritten paragraph:

--Leaving incinerator 40, hot combustion gas effluent 45 is cooled in an indirect heat exchanger 47. Depending upon the size of the installation, heat exchanger 47 may take the form of a waste heat boiler or recuperator. Cooled

combustion gas 49 is then delivered to a system for the selective removal and recovery of sulfur dioxide such as that described in U.S. Patent No. 5,851,265 (Burmaster et al.), the entire disclosure of which is incorporated herein by reference. In such a system, the combustion gas effluent is introduced into a sulfur dioxide absorption zone and contacted with a liquid absorbent for selective absorption of sulfur dioxide to transfer sulfur dioxide from the combustion gas to the absorbent and produce an exhaust gas from which sulfur dioxide has been substantially removed and a sulfur dioxide-rich absorbent. Sulfur dioxide is stripped from the rich absorbent in a sulfur dioxide stripping zone to produce a lean absorbent and a sulfur dioxide-enriched stripper gas. The regenerated lean absorbent is recycled to the absorption zone for further selective absorption of sulfur dioxide from the combustion gas effluent. The system disclosed by Burmaster et al. is preferred in the practice of the present invention and for purposes of the following description, particular reference is made to the portion of that disclosure at col. 4, line 5 to col. 9, line 52 with any modifications or specific preferred features set forth below. However, it should be understood that various sulfur dioxide absorbents and sulfur dioxide recovery process schemes may be employed in the practice of the present invention.--

Please replace the paragraph beginning at page 30, line 17, with the following rewritten paragraph:

--As shown in Fig. 1, the sulfur dioxide concentration in the Claus catalytic reaction zone may be increased by a bypass line 95 which bypasses at least a portion of the incoming acid gas feed stream 1 around catalytic converter

a3

27 and introduces it directly into incinerator 40. Hydrogen sulfide in the acid gas is oxidized to sulfur dioxide in the incinerator and fed back to the Claus catalytic reaction zone as part of sulfur dioxide-enriched stripper gas 19.--

Please replace the paragraph beginning at page 36, line 6, with the following rewritten paragraph:

a4

--The product gas effluent exiting the converter was cooled in sulfur condenser 31 to condense and separate sulfur 33 and produce low pressure steam. A mesh pad within the sulfur condenser ensured minimal sulfur entrainment in the tail gas effluent 35 exiting the condenser. The portion of the tail gas effluent 37 not recycled to the converter was introduced into tail gas incinerator 40 along with combustion air 41 and sour water stripper gas containing ammonia, water vapor and hydrogen sulfide. Sulfur species present in the gases fed to the incinerator were oxidized to sulfur dioxide and a minor amount to sulfur trioxide. With the combustible content of the tail gas effluent augmented by the sour water stripper gas, there was no need for supplemental fuel gas in the incinerator.--

IN THE CLAIMS:

Please amend claim 1 as follows:

a5

1. (once amended) A process for the production of elemental sulfur from an acid gas feed stream containing hydrogen sulfide, the process comprising the steps of:

contacting a feed gas mixture comprising at least a portion of the acid gas feed stream and sulfur dioxide with a Claus conversion catalyst in a single Claus catalytic reaction zone at a temperature effective for the reaction

Sub B1